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The California Chronic Disease Investigation—A Summary*

In 1947 the California Legislature directed the State Department of Public Health "to investigate the problems involved in the reduction of deaths and disability from cancer and other chronic diseases" and to report its findings together with recommendations for a control program in 1949.

With the aid of an advisory committee and many technical advisory groups, the department has been actively engaged in the ordered investigation for the past year and one-half.

As part of this task, information was obtained on the magnitude of the chronic disease problem in the State and on facilities and services for the chronically ill. Particular attention was devoted to certain major chronic diseases: cancer, heart disease, diabetes, alcoholism, dental disease, rheumatism and epilepsy.

Technical advice and opinion was obtained from several hundred individuals, representing local California professional societies, welfare agencies, hospitals, health departments and other groups.

The completed report was presented to the Legislature for its consideration in January. It is here summarized.

Magnitude of the Chronic Disease Problem

Chronic diseases accounted for the deaths of 66,518 persons in California during 1947—more than two-thirds of the total number of persons who died in the State that year. Forty percent (26,108) of the chronic disease deaths occured among persons under sixty-five years of age. Cardiovascular diseases and cancer were the leading causes of death.

The number of persons who die each year from the chronic diseases is only a fraction of the total number of persons who suffer from chronic illness. The best available data suggest that in 1947 California had approximately one hundred four thousand persons disabled the entire year by chronic illness and approximately three hundred fifty-one thousand disabled for periods ranging from one week to one year. Over two-thirds of these 454,000 persons were less than sixty-five years of age.

The estimated number of diagnosed cases of cancer during 1947 in California was 50,000; the number of diagnosed cardiovascular cases was several times as large. During the first year of operation (1947) the California Disability Insurance State Plan, covering less than one-third of the State's population paid disability benefits amounting to more than seven million dollars for a total of 380,000 weeks of illness due to certain of the chronic diseases. This expenditure, par-

*For the Department of Public Health, the major part of the work in this investigation was conducted by the Chronic Disease Service under the direction of its chief, Dr. Lester Breslow.

The advisory committee consisted of: *Robert Ash*, Secretary, Alameda County Central Labor Council, A. F. L., Oakland; *Edwin L. Bruck, M.D.*, Chairman of the Council, California Medical Association, San Francisco; *Rt. Rev. William J. Flanagan*, General Director, Catholic Social Service, San Francisco; *Joe Hart*, Modesto; *Kenneth W. Haworth, M.D.*, Health Officer, Napa County, Napa (Humboldt County, Eureka, when appointed); *Walter C. Kennedy*, Second Vice President and Chief Underwriter, California-Western States Life Insurance Company, Sacramento.

Howard Lambert, Community Services Director, C. I. O., Los Angeles; *R. B. McClellan*, Chairman of Health and Hospitals Committee, County Supervisors' Association, Lompoc; *Lawrence B. O'Hara, D.O.*, California Osteopathic Association, Los Angeles; *Edward S. Rogers, M.D.*, Dean of School of Public Health, University of California, Berkeley; *Mrs. Russell Scott*, Chairman of Health Committee, California Congress of Parents and Teachers, Salinas; *William P. Shepard, M.D.*, Third Vice President, Metropolitan Life Insurance Company, San Francisco; *Howard F. West, M.D.*, Medical Director, Los Angeles County Department of Charities, Los Angeles; *G. Otis Whitecotton, M.D.*, Medical Director, Alameda County, and Trustee, Association of California Hospitals, Oakland; *Charles Wollenberg*, Former Director, State Department of Social Welfare, Sacramento.

tial compensation for wage loss, did not include the cost of medical care, hospitalization and allied services required for most extended periods of chronic disability.

The cases included in the above estimates are, of course, those which have been diagnosed. Accurate estimates cannot be made of the number of undiagnosed cases. There are indications, however, that without being aware of it as many as one hundred thousand Californians have heart disease and seventy thousand have diabetes.

There are relatively few families not affected by a chronic disease at some time. There is hardly any area in the State that is unaware of the effects of these diseases on the welfare load and on the demands for medical, hospital, nursing and related services.

A significant proportion of disability from chronic diseases might be prevented with present medical knowledge. For example, it is estimated that 30 percent of the patients that now die of cancer could have been cured had they received prompt and adequate treatment when the lesion first was discoverable.

Necessary Services and Facilities for an Effective Chronic Disease Program

To meet the growing and already extensive chronic disease problem in California, the following services and facilities are necessary:

1. **Research:** Advances in combatting certain of the chronic diseases still depend on research. California has a number of professionally qualified medical and allied research institutions. However, grants from the Federal Government and other public and private sources have not been allocated to some of these institutions because of the lack of physical facilities necessary for carrying out research.

It is recommended that the specific needs of California research institutions for additional physical facilities essential to the conduct of expanded research programs on the chronic diseases be determined. Such determination should be made by the State Department of Public Health in cooperation with the research institutions and appropriate professional societies.

2. **Preventive Service:** A considerable amount of chronic illness and disability could now be prevented if effective use were made of existing knowledge and techniques. Early discovery of and prompt medical attention for many of the chronic diseases are basic factors in control. Screening methods for the detection of certain of these diseases (e.g., heart disease and diabetes) are being developed and some are now ready for wide-scale application. Accident prevention, industrial hygiene, professional and public education concerning the chronic diseases, and intensification of efforts against those communicable diseases which lead to chronic conditions—all play a significant role in preventing illness, disability and premature death. Although private and public agencies in California are carrying out some activities in this field of prevention, as yet only a beginning has been made.

It is recommended that the development and utilization of preventive services for the chronically ill be undertaken by local health agencies with the cooperation and approval of local professional societies. The preventive program should include professional and public education concerning the chronic diseases, mass-screening methods (where proven medically sound) for early detection of chronic diseases, intensification of communicable disease control programs with specific emphasis on those diseases leading to chronic conditions, and accident prevention activities.

3. **Statistical Services:** Continuing statistical studies of the causes of death and illness are essential for knowledge of the chronic disease problem in California. The State Department of Public Health receives death certificates; however, it has no specific authorization for continuing statistical studies of chronic disease. Data on illness and disability from chronic disease are important, but difficult to collect. Not until recently has any effort been made to tap the sources of these data within the State: e.g., a few hospitals are furnishing information on cancer cases to the Tumor Registry of the State Department of Public Health, and the department is receiving disability statistics derived from the State Disability Insurance Program. There is need for further development of sources and methods of obtaining current information on the incidence, prevalence and duration of cancer and the other chronic diseases in California.

It is recommended that the State Department of Public Health maintain statistical services on a continuing basis as part of a chronic disease program. Special attention should be directed to the development of methods and sources for obtaining current data on chronic illness, without universal, regular reporting of individual cases of all chronic diseases. The tumor registry should be expanded on a voluntary basis to include all hospitals and clinics, and where practicable, private physicians —with at least partial reimbursement for the expenses of reporting.

4. **Professional and Vocational Training and Education:** An effective chronic disease program depends in a large measure upon the knowledge of several professional groups including physicians, dentists, administrators of hospitals and other institutions, nurses and medical social workers. All these require continuing educational opportunities if they are to be expected to utilize current advances in their fields. Patterns of post-graduate education for physicians are being developed in the cancer and heart fields. Parallel

programs should be made available to other professional groups, and comparable programs should be developed for other chronic diseases. It is particularly important to extend educational opportunities to personnel in the rural areas.

A shortage of personnel for nursing care requires that special attention be devoted to recruitment and adequate training of nurses and auxiliary workers.

It is recommended that the professional education and training programs of the state and local professional societies be expanded; that cooperative planning be undertaken with the postgraduate training programs of the several professional schools and voluntary health agencies; and that the State Department of Public Health assist in the planning of programs of advanced professional education and training in the field of the chronic diseases. For financing such programs, state funds should be made available where there is a demonstrated need to augment contributions of professional societies for professional education. No claims should be made, by agencies of the State, on the services of individuals trained through the use of such funds.

It is further recommended that adequate programs be developed by qualified hospitals for the training of practical nurses.

5. **Health Education:** Public understanding of what can be done by the individual and by the community to reduce deaths and disability from the chronic diseases is essential to a successful attack on these diseases. Heretofore, a few voluntary associations and insurance companies have concerned themselves to some extent with health education about the chronic diseases. School systems and health departments have devoted their health education efforts primarily to the communicable diseases with only sporadic and fragmentary attention to chronic diseases. Health departments and schools as well as professional groups could contribute significantly to the solution of the chronic disease problem by increasing public knowledge concerning it.

It is recommended that expanded programs for education of the public on cancer and the other chronic diseases and on accident prevention be conducted by voluntary organizations interested in health, by professional societies, hospitals, educational institutions, and health departments.

6. **Diagnostic and Therapeutic Services:** The diagnostic and therapeutic services essential for an effective chronic disease program are inseparable from medical care services as a whole. Based on preliminary and necessarily incomplete information it appears that diagnostic and therapeutic services are generally available in the urban areas of California but are not readily accessible to persons living in certain rural parts of the State. Measures are needed to know the availability of these services in urban areas and to attain greater accessibility and coordination in the rural areas. Improvement of quality in diagnostic and therapeutic services must be constantly sought through such means as post-graduate education. Intimately related to the problem of diagnostic and therapeutic services is the great need in California for further hospital and nursing home beds for the chronically ill.

It is recommended that local communities with the guidance and support of local professional societies and health departments work toward the goal of making available adequate diagnostic and therapeutic services either in their own communities or through arrangements with nearby communities.

7. **Hospital Care Services:** Hospital facilities for chronic illness, equal in quality to those for acute illness, are needed to bring the best of modern medical care to those with chronic disease. As noted in the report "Hospital Facilities in California" by the State Department of Public Health, " * * * there is danger in the present drive for more hospital beds that attention would be centered too greatly on acute general beds when a substantial share even of the need for them could be met by the planning of chronic disease facilities as a part of general hospitals." It was noted in the same publication (March, 1948) that there were only 3,434 acceptable beds for chronic care in California compared with an estimated need of 18,684. This lack of beds for chronically ill patients increases the load on already hard pressed facilities for acute patients, especially in the county hospitals. Many communities in California are now using as general hospitals for acute patients facilities which are unacceptable as defined in the above-cited report. The conversion of these facilities to use for chronically ill patients is not a satisfactory solution to the problem of chronic care. Additional funds are needed to meet the demand for chronic disease beds in California. Hospital facilities for the chronically ill should be closely associated functionally and geographically with general hospitals and should serve to stimulate clinical interest and research in the chronic diseases. On a long range basis the need for tuberculosis and possibly other facilities will decrease and the conversion of those which are suitably located and constructed into facilities for the chronically ill may eventually be desirable.

It is recommended that the California Advisory Hospital Council devote appropriate attention to hospital beds for the chronically ill in establishing priorities during the remaining period of the state hospital construction program; and that additional resources be sought to aid: (a) the construction of other facilities for the chronically ill—construction consistent with the recommendations of the California Hospital Survey; and, (b) the development and expansion of custodial, nursing

home, home care, and rehabilitation services, to ease the demand for hospital beds.

8. **Other Institutional Care Services:** After maximum benefit has been received from hospitalization, many chronically ill patients need further care either in nursing homes or custodial facilities. At present there are approximately seven thousand nursing home beds in California. All authorities agree that additional nursing home facilities for both private and public patients are critically needed. Cost of such care is one of the prime problems. Custodial facilities in California are inadequate and vary greatly in quality of care provided. Some serve merely as a "dumping ground" for many types of patients. In addition to persons requiring nursing or custodial care there are many for whom substitute (boarding) home care would suffice. Development of nursing, custodial, and boarding home care is greatly needed.

It is recommended that sufficient nursing, custodial, and substitute home care facilities which meet adequate standards be made available by local communities to care for the needs of the chronically ill. These facilities should be correlated with the hospitals of the communities. In the smaller communities particularly, consideration should be given to placing nursing and custodial units adjacent to general hospitals.

9. **Rehabilitation Services:** Persons with chronic illness are too frequently regarded as hopeless invalids. Many who are now dependent on others for daily care can be brought to the point of taking care of themselves. It has been demonstrated that rehabilitation services can get large numbers of chronically ill persons back into productive employment. Instead of remaining on welfare rolls they become self-sustaining members of the community. Vocational rehabilitation services, and more recently rehabilitation centers which serve the handicapped population irrespective of vocational status, have been available in California. These, however, are limited programs. The state program, which is now covering an estimated 15 percent of the vocationally handicapped, is particularly inadequate in the rural areas. Of equal importance is the development of rehabilitation service as part of the general hospital and medical care services throughout California.

It is recommended that rehabilitation services be expanded, with particular emphasis on the needs of vocationally handicapped persons living in rural areas. A special study should be initiated —jointly by official and voluntary organizations concerned with the problems of rehabilitation—to determine the most effective methods for establishing rehabilitation services for all elements of the population who would benefit, not merely those who would gain vocationally.

10. **Home Care Services:** Hospital care would be unnecessary in many instances if proper home care services were available. It has been demonstrated that the cost of adequate home care for the chronically ill is less than that of institutional care; and the patient is often happier while receiving care in his own home. Diagnostic and therapeutic services, including specialist care, are required for chronically ill persons living at home. Bedside nursing care, housekeeper service and medical social service would all reduce the need for the more expensive institutional care, yet all three are conspicuously inadequate especially in the rural part of the State. A key problem is the provision of bedside nursing service in which practical nurses might be extensively used.

It is recommended that local communities develop comprehensive home care programs for the chronically ill including diagnostic and therapeutic services, bedside nursing, medical social service, and housekeeping service. These should be integrated with the hospital and other services.

11. **Future Chronic Disease Program:** Up to the present time there has been no agency in California which has been charged with or which has assumed responsibility for study of the chronic disease problem; and for coordination of activities related to the control and prevention of chronic disease or to the facilities and services available for the chronically ill. Even the foregoing brief statement of the chronic disease problem indicates its complexity and emphasizes the need for permanent study, continuing recommendations and intelligent coordination of activities in this field. Chronic illness concerns not only the chronically ill and their families, but also the community. In fact, the primary responsibility for providing services to the chronically ill rests with the individual and the local community. Continuous study of the problems related to chronic illness by an agency representing the State as a whole, is in the public interest. Public interest also requires that the agency designated to carry out this purpose must adequately represent all groups that are concerned with the chronically ill. As this report has demonstrated, research, preventive services, statistical studies, rehabilitation, health education, professional services, hospital and institutional care, and home care services—all play a part in an over-all approach to the control of chronic disease and the amelioration of its effects. A representative agency to observe, assist, encourage and coordinate these activities at the state level is both warranted and essential. However, emphasis must still remain on the responsibilities of local communities.

It is, therefore, recommended that the Legislature authorize a chronic disease program by enacting the following specific proposals:

(a) That there be established within the State Department of Public Health an advisory chronic disease council; that this council contain adequate representation from professional groups concerned with chronic diseases and from the public at large, with the director of the department, a member ex officio; and that the members of the council serve for stated terms and be appointed by the governor from a list of nominees selected jointly by the State Director of Public Health, the Chairman of the Senate Standing Committee on Public Health and Safety, the Chairman of the Assembly Standing Committee on Public Health, and the President of the California Medical Association. This council should advise and assist the department in the coordination of the various phases of the chronic disease program outlined in this report, and in its responsibility for encouraging local communities to provide adequate services for the chronically ill. The department, with the advice and assistance of the council, should submit to the Governor and the Legislature prior to each regular session of the Legislature a full report on chronic disease prevalence, control prevention, facilities and care in the State;

(b) That the specific needs of California research institutions for additional physical facilities, essential to the conduct of expanded research programs on the chronic diseases, be determined. Such determination should be made by the State Department of Public Health in cooperation with the research institutions and appropriate professional societies;

(c) That the State Department of Public Health should maintain statistical services on a continuing basis as part of a chronic disease program. Special attention should be directed to the development of methods and sources for obtaining current data on chronic illness, without universal, regular reporting of individual cases of all chronic diseases. The tumor registry should be expanded on a voluntary basis to include all hospitals and clinics, and where practicable, private physicians —with at least partial reimbursement for the expenses of reporting;

(d) That the State Department of Public Health assist in the planning of programs of advanced professional education and training in the field of the chronic diseases. For financing such programs, state funds should be made available where there is a demonstrated need to augment contributions of professional societies for professional education, no claims should be made, by agencies of the State, on the services of individuals trained through the use of such funds.

1949 Cannery Inspection Board

The following are members of the State Cannery Inspection Board for 1949:

Charles Mel, R. E. Sanborn, S. J. Tupper, Gilbert Van Camp, K. F. Meyer, M.D. (statutory member), and Wilton L. Halverson, M.D. (statutory member).

Department of Education Sponsors Four Rural Life Conferences

Now in progress are a series of four conferences on Rural Life and Education sponsored by the California Department of Education in cooperation with other governmental, social, civic, educational and professional groups throughout the State.

The purposes of these conferences, which are being held in Chico, Fullerton, Berkeley and Fresno during January and February, are:

1. To provide opportunity to discuss the current scene in California with regard to the mobility and characteristics of the rural population; agriculture; rural-urban relationships; education of rural children; youth and adults; social and cultural opportunities in rural life; recreational opportunities for rural people; rural health and social service; rural life and government; conservation of natural resources.

2. To determine the needs which may be met by the cooperative efforts of the agencies involved in the conference.

3. To assist the Department of Education in determining policies regarding educational services for rural children, youth and adults.

The four conferences are being planned around special problems, each to be studied by a single group. Findings of the four meetings are to be organized into a report which will serve as a recommended course of action for all educational agencies to pursue in the improvement of rural life and education.

The entire schedule of conferences is as follows:

January 6- 8, 1949—Chico State College
January 13-15, 1949—Fullerton Union High School and Junior College
January 27-29, 1949—University of California, Berkeley
February 3- 5, 1949—Fresno State College

Nurses Needed in Los Angeles, Santa Cruz Health Departments

There are still several positions for public health nurses open with the **City of Los Angeles.** Salary for a 40-hour week starts at $259 and advances to $319 in four yearly steps. Applicants must present valid California registered nurse and public health nurse certificates prior to employment and must have been residents of California for at least one year. Applications are being received at Room 11, Los Angeles City Hall, until further notice. The oral examination required will be given in Los Angeles. Applicants will be notified of the exact time and place of their oral interview.

Santa Cruz County also has a vacant public health nursing position. Starting salary for the job is $250 with 6 cents per mile allowed for automobile use.

Applicants should contact Dr. R. O. Ingham, County Health Officer, 842 Front Street, Santa Cruz.

New Birth and Death Registration Forms

On the first of this year, revised certificates for registration of live births, stillbirths and deaths came into use throughout California. These forms were adopted in connection with the decennial revision of the standard certificates as worked out by the National Office of Vital Statistics through conferences with registration officials from each of the states.

The certificates for live birth and stillbirth will require essentially the same information as before. An important difference is the provision on the new form of an item for birth weight. It is believed that this information will be of great service to those studying the problem of prematurity.

Death Certificate

The revision of the certificate of death brings a major change in the section "Cause of Death" to conform to the recommendations of the World Health Organization. Mortality statistics have been as accurate as the original medical certifications of cause on which they stand, modified by treatment given these records by the statistical office. Both factors in this equation can now operate more efficiently and more to everyone's satisfaction.

As will be seen in the certificate reproduced below, there is now a clear separation of the cause-of-death statement into Parts I and II with more specific explanations for each part. A great deal of history and thought is represented in this revision.

"Cause of death" is now defined as the condition, disease process, abnormality, injury or poisoning leading directly or indirectly to death. Symptoms or modes of dying such as heart failure or asthenia are not con-

REGISTRATION DISTRICT NO. _____ REGISTRAR'S NUMBER _____

CERTIFICATE OF LIVE BIRTH

STATE FILE NO

THIS CHILD (TYPE OR PRINT NAME)

1a. CHILD'S FIRST NAME	1b. MIDDLE NAME	1c. LAST NAME

2. SEX	3a. THIS BIRTH. SINGLE. TWIN. OR TRIPLET?	3b IF TWIN OR TRIPLET THIS CHILD BORN 1ST 2ND 3RD?	4a. DATE OF BIRTH — MONTH. DAY. YEAR	4b. HOUR

PLACE OF BIRTH

5a. PLACE OF BIRTH — CITY OR TOWN (IF OUTSIDE CORPORATE LIMITS. WRITE RURAL AND NAME OF NEAREST TOWN)	5b. COUNTY
5c. FULL NAME AND ADDRESS OF HOSPITAL OR INSTITUTION — (IF NOT IN HOSPITAL OR INSTITUTION. GIVE STREET ADDRESS OR LOCATION)	

USUAL RESIDENCE OF MOTHER (WHERE DOES MOTHER LIVE?)

6a. RESIDENCE OF MOTHER — STREET ADDRESS (IF RURAL. GIVE LOCATION)	6b. COUNTY
6c CITY OR TOWN (IF OUTSIDE CORPORATE LIMITS. WRITE RURAL AND NAME OF NEAREST TOWN)	6d STATE

MOTHER OF CHILD

7a. MAIDEN NAME OF MOTHER—FIRST NAME	7b MIDDLE NAME	7c. LAST NAME	8. COLOR OR RACE OF MOTHER
9. AGE OF MOTHER (AT TIME OF THIS BIRTH) YEARS	10. BIRTHPLACE (STATE OR FOREIGN COUNTRY)	11 MAILING ADDRESS OF MOTHER (IF DIFFERENT FROM USUAL RESIDENCE)	

FATHER OF CHILD

12a. NAME OF FATHER — FIRST NAME	12b. MIDDLE NAME	12c. LAST NAME	13 COLOR OR RACE OF FATHER
14. AGE OF FATHER (AT TIME OF THIS BIRTH) YEARS	15 BIRTHPLACE (STATE OR FOREIGN COUNTRY)	16a USUAL OCCUPATION	16b KIND OF BUSINESS OR INDUSTRY

INFORMANT'S CERTIFICATION	I HEREBY CERTIFY THAT THE ABOVE STATED INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.	17a. SIGNATURE OF PARENT OR OTHER INFORMANT ▶ ☐ PARENT ☐ OTHER. SPECIFY	17b DATE SIGNED
ATTENDANT'S CERTIFICATION	I HEREBY CERTIFY THAT I ATTENDED THIS BIRTH AND THAT THE CHILD WAS BORN ALIVE AT THE HOUR AND DATE STATED ABOVE.	18a. SIGNATURE OF ATTENDANT ▶ DEGREE OR TITLE	18b ADDRESS
REGISTRAR'S CERTIFICATION	19 DATE RECEIVED BY LOCAL REGISTRAR	20 SIGNATURE OF LOCAL REGISTRAR ▶	21 DATE ON WHICH GIVEN NAME ADDED
LEAVE BLANK (ADDED AFTER FILING)			

FOR MEDICAL AND HEALTH USE ONLY (THIS SECTION IS NOT TO BE REPRODUCED ON CERTIFIED COPIES)

CHILDREN PREVIOUSLY BORN TO THIS MOTHER (DO NOT INCLUDE THIS CHILD)	22a. HOW MANY OTHER CHILDREN ARE NOW LIVING?	22b. HOW MANY OTHER CHILDREN WERE BORN ALIVE BUT ARE NOW DEAD?	22c. HOW MANY CHILDREN WERE STILLBORN (BORN DEAD AFTER 20 WEEKS PREGNANCY)?
23a. LENGTH OF PREGNANCY WEEKS	23b. WEIGHT AT BIRTH LBS. OZS.	24a. STATE ANY COMPLICATIONS OF PREGNANCY AND LABOR	
24b. STATE ANY OPERATION FOR DELIVERY		24c. DESCRIBE ANY CONGENITAL MALFORMATIONS	
24b. DESCRIBE ANY BIRTH INJURY		24d. WAS PROPHYLACTIC DRUG USED IN BABY'S EYES? ☐ YES ☐ NO	IF YES. STATE DRUG:
25a. WAS A SEROLOGICAL TEST FOR SYPHILIS MADE IN THIS MOTHER? ☐ YES ☐ NO	25b. IF SO. AT WHAT MONTH OF PREGNANCY?	25c IF NOT. WHY NOT?	

STATE OF CALIFORNIA — REV. 1-1-49 FORM H. S. D. 10 — DEPARTMENT OF PUBLIC HEALTH

REGISTRATION DISTRICT NO. | REGISTRAR'S NUMBER

CERTIFICATE OF DEATH

STATE FILE NO

DECEDENT PERSONAL DATA (TYPE OR PRINT NAME)

1a. NAME OF DECEASED—FIRST NAME | 1b MIDDLE NAME | 1c. LAST NAME | 2a. DATE OF DEATH — MONTH, DAY, YEAR | 2b. HOUR

3. SEX | 4. COLOR OR RACE | 5. MARRIED, NEVER MARRIED, WIDOWED, DIVORCED | 6 DATE OF BIRTH | 7 AGE (LAST BIRTHDAY) YEARS | IF UNDER 1 YEAR: MONTHS, DAYS | IF UNDER 24 HOURS: HOURS, MINUTES

8a. USUAL OCCUPATION (GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE, EVEN IF RETIRED) | 8b KIND OF BUSINESS OR INDUSTRY | 9. BIRTHPLACE (STATE OR FOREIGN COUNTRY) | 10. CITIZEN OF WHAT COUNTRY?

11. NAME OF FATHER | 12 MAIDEN NAME OF MOTHER | 13. NAME OF SPOUSE (IF MARRIED)

14. WAS DECEASED EVER IN U. S. ARMED FORCES? SPECIFY YES, NO, UNKNOWN | IF YES, GIVE WAR OR DATES OF SERVICE | 15. SOCIAL SECURITY NUMBER | 16 INFORMANT

PLACE OF DEATH

17a. PLACE OF DEATH — CITY OR TOWN (IF OUTSIDE CORPORATE LIMITS, WRITE RURAL AND NAME OF NEAREST TOWN) | 17b. LENGTH OF STAY (IN THIS PLACE) | 17c. COUNTY

17d. FULL NAME AND ADDRESS OF HOSPITAL OR INSTITUTION — (IF NOT IN HOSPITAL OR INSTITUTION, GIVE STREET ADDRESS OR LOCATION)

USUAL RESIDENCE (WHERE DECEASED LIVED) (IF INSTITUTION, RESIDENCE BEFORE ADMISSION)

18a. STREET ADDRESS (IF RURAL, GIVE LOCATION) | 18b CITY OR TOWN (IF OUTSIDE CORPORATE LIMITS, WRITE RURAL AND NAME OF NEAREST TOWN) | 18c COUNTY | 18d. STATE

CAUSE OF DEATH (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b) AND (c))

19-I. THIS DOES NOT MEAN THE MODE OF DYING SUCH AS HEART FAILURE, ASTHENIA, ETC. IT MEANS THE DISEASE, INJURY OR COMPLICATIONS WHICH CAUSED DEATH.

19-Ia. DISEASE OR CONDITION DIRECTLY LEADING TO DEATH

ANTECEDENT CAUSES MORBID CONDITIONS, IF ANY, GIVING RISE TO THE ABOVE CAUSE (A) STATING THE UNDERLYING CAUSE LAST.

19-Ib DUE TO

19-Ic DUE TO

APPROXIMATE INTERVAL BETWEEN ONSET AND DEATH

19-II. CONDITIONS CONTRIBUTING TO THE DEATH BUT NOT RELATED TO THE DISEASE OR CONDITION CAUSING DEATH.

19-II. OTHER SIGNIFICANT CONDITIONS

OPERATIONS AUTOPSY

20a. DATE OF OPERATION | 20b. MAJOR FINDINGS OF OPERATION | 21. AUTOPSY ☐ YES ☐ NO

DEATH DUE TO EXTERNAL VIOLENCE

22a. ACCIDENT (SPECIFY) SUICIDE HOMICIDE | 22b. PLACE OF INJURY (E.G., IN OR ABOUT HOME, FARM, FACTORY, STREET, OFFICE BUILDING, ETC.) | 22c. LOCATION CITY OR TOWN COUNTY STATE

22d. TIME OF INJURY MONTH DAY YEAR HOUR M | 22e. INJURY OCCURRED ☐ WHILE AT WORK ☐ NOT WHILE AT WORK | 22f HOW DID INJURY OCCUR?

PHYSICIAN'S OR CORONER'S CERTIFICATION

23a. CORONER'S: I HEREBY CERTIFY THAT I HAVE HELD AN ☐ AUTOPSY, ☐ INQUEST, OR ☐ INVESTIGATION ON THE REMAINS OF THE DECEASED AND FIND THAT THE DECEASED CAME TO DEATH AT THE HOUR AND DATE STATED ABOVE.

23b. PHYSICIAN'S: I HEREBY CERTIFY THAT I ATTENDED THE DECEASED FROM ____ 19__ TO ____ 19__, THAT I LAST SAW THE DECEASED ALIVE ON ____ 19__, AND THAT DEATH OCCURRED FROM THE CAUSES AND AT THE HOUR AND DATE STATED ABOVE.

23c. SIGNATURE DEGREE OR TITLE | 23d. ADDRESS | 23e. DATE SIGNED

FUNERAL DIRECTOR AND REGISTRAR

24a. ☐ BURIAL ☐ CREMATION ☐ REMOVAL | 24b. DATE | 24c. CEMETERY OR CREMATORY | 25. SIGNATURE OF EMBALMER LICENSE NUMBER

27 DATE RECEIVED BY LOCAL REGISTRAR | 28. SIGNATURE OF LOCAL REGISTRAR | 26. SIGNATURE OF FUNERAL DIRECTOR ADDRESS

STATE OF CALIFORNIA REV. 1-1-48 FORM H. S. 9. 11 DEPARTMENT OF PUBLIC HEALTH

sidered to be causes of death for statistical purposes. The problem of classifying causes of death for vital statistics is relatively simple when only one cause is involved, but in many cases two or more morbid conditions contribute to death. Traditionally, one of these causes has been selected for vital statistics and described with little uniformity as the "primary cause," "principal cause," etc. The *Manual of Joint Causes* has been utilized since 1914 for arbitrary selection of the statistical cause of death. It is now obsolete and will no longer be used.

It was agreed by the revision conference that the "cause" to be tabulated hereafter should be the underlying cause of death. In the past this cause too has been selected in various ways in different countries. The principle now adopted defines the underlying cause of death as (a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury. To assure uniform application of this principle, utilization of the new medical certification form is mandatory.

This form makes the physician responsible for indicating the train of events which resulted in death. The certifying medical practitioner is the only one in a position to decide which of the conditions led directly to death, and to state the antecedent conditions, if any.

Cause of Death. In Item 19-1 on the Certificate of Death is reported the cause leading directly to death (line Ia), and also the antecedent conditions (lines Ib and Ic) which gave rise to the cause reported in line Ia—the underlying cause thus being stated last in the sequence of events. However, no entry is necessary in lines Ib and Ic if the disease or conditions leading directly to death, stated in line Ia, describe completely the train of events.

In Item 19-11 is entered any other significant condition which unfavorably influenced the course of the morbid process, and thus contributed to the fatal out-

come, but which was not related to the disease or condition directly causing death.

In summary, the manner in which the physician enters the cause of death will be the deciding factor in determining for statistical purposes the underlying cause—which of course is the essence of the data on the certificate. The new plan eliminates the old procedure of using an arbitrary manual to select the statistical cause of death when more than one condition is certified by the attending physician. The revised classification procedure and the modified form of the medical certificate of cause of death have both been adopted as uniform international aids to more accurate and more comparable death statistics.

Annual Meeting of Exceptional Child Institute in San Francisco

The International Council for Exceptional Children will hold its annual meeting at the Fairmont Hotel, San Francisco, February 27th through March 2d.

Participating in the program will be outstanding individuals in every field of special education. A few of the topics and speakers to be included on the program are:

Dr. Lewis M. Terman, Professor Psychology, Emeritus, Stanford University—"The Gifted Child Grows Up."

Dr. Leslie Hohman, Psychiatrist, Duke University—"The Adjustment of Emotionally Disturbed Children."

Mr. Eugene J. Taylor, Director of Special Education, New York University, Bellevue Rehabilitation Service—"Providing Adequate Service or Orthopedically Handicapped Children."

Dr. Frederick C. Cordes, U. C. Medical School, and *Dr. D. B. Harmon*, Private Research Consultant in School Lighting—"Improved School Services for Visually Handicapped Children."

Dr. Edgar A. Doll, Director, The Training School, Vineland, New Jersey—"Finding a Place for the Mentally Retarded Child."

Dr. Leo F. Cain, Director of Special Education, San Francisco State College, is in charge of program arrangements.

Sacramento State Offers Courses for Nurses

Sacramento State College will offer a number of courses of interest to nurses during its spring term beginning February 3d.

Many of the courses are designed specifically for nurses working toward their public health nursing credential.

Credit for all work completed is transferable to the University of California.

Further information may be obtained from the Registrar, Sacramento State College, Sacramento.

California Morbidity Report December, 1948

Civilian Cases

Reportable diseases	Week ending					Total cases	5-yr. median	Total cases
	12/4	12/11	12/18	12/25	1/1	Dec.	Dec., 1943-1947	Jan.-Dec., inc.
Amebiasis (amoebic dysentery)	2	5	4	6	4	21	------	310
Anthrax	------	------	------	------	1	1	------	1
Botulism	3	------	------	------	------	3	------	3
Chancroid	7	5	5	13	9	39	------	450
Chickenpox (varicella)	528	744	718	518	452	2,960	2,995	40,465
Cholera, asiatic	------	------	------	------	------	------	------	------
Coccidioidal granuloma	------	------	------	1	------	1	------	71
Conjunctivitis—acute infectious of the newborn (ophthalmia neonatorum)	------	1	------	------	------	1	------	18
Dengue	------	------	------	------	------	------	------	------
Diarrhea of the newborn	------	------	3	2	------	5	------	113
Diphtheria	5	7	9	7	8	36	91	435
Dysentery, bacillary	12	9	20	10	8	59	------	488
Encephalitis, infectious	------	------	1	1	------	2	11	97
Epilepsy	38	33	51	48	66	236	------	2,010
Food poisoning	6	5	1	3	4	19	------	231
German measles (rubella)	52	50	79	63	47	290	------	3,710
Glanders	------	------	------	------	------	------	------	------
Gonococcus infection	561	484	362	544	432	2,383	2,141	26,732
Granuloma inguinale	2	------	------	1	1	4	------	49
Influenza, epidemic	8	5	16	15	27	71	655	14,660
Jaundice, infectious	3	2	2	8	3	18	------	189
Leprosy	------	------	------	------	------	------	------	14
Lymphogranuloma venereum (lymphopathia venereum, lymphogranuloma inguinale)	5	7	------	8	1	21	------	244
Malaria	------	------	------	------	1	1	14	42
Measles (rubeola)	236	290	398	320	276	1,520	1,051	64,720
Meningitis, meningococcic	5	3	3	9	11	31	53	337
Mumps (parotitis)	622	694	691	477	346	2,830	1,851	33,140
Paratyphoid fever, A, B & C	1	5	5	1	1	13	------	134
Plague	------	------	------	------	------	------	------	------
Pneumonia, infectious	19	27	22	18	24	110	342	1,643
Poliomyelitis, acute anterior	169	120	97	79	68	533	70	5,710
Psittacosis	------	------	4	------	------	4	------	12
Rabies, human	------	------	------	------	------	------	------	------
Rabies, animal	5	6	5	4	9	29	49	376
Relapsing fever	------	------	------	------	------	------	------	5
Rheumatic fever	17	17	22	10	6	72	------	700
Rocky Mountain Spotted fever	------	1	------	------	------	1	------	1
Scarlet fever	90	94	90	65	51	390	912	3,697
Streptococcic sore throat	27	15	27	13	7	89	------	648
Smallpox (variola)	------	------	------	------	------	------	0	3
Spirochetal jaundice	------	------	------	------	------	------	------	------
Syphilis	314	302	248	248	326	1,438	1,640	17,691
Tetanus	------	1	------	------	1	2	------	13
Trachoma	2	------	1	------	------	3	------	33
Trichinosis	1	------	------	1	------	2	------	23
Tuberculosis, pulmonary	156	135	139	172	147	749	618	8,211
Tuberculosis, other forms	11	2	8	7	9	37	73	475
Tularemia	------	------	------	------	------	------	------	7
Typhoid fever	3	------	2	2	3	10	8	108
Typhus fever	1	1	------	------	------	2	------	18
Undulant fever (brucellosis)	3	3	------	2	3	11	24	164
Whooping cough (pertussis)	69	51	49	28	21	218	430	3,714
Yellow fever	------	------	------	------	------	------	------	------
						14,265		230,904

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